(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 7 October 2004 (07,10,2004)

PCT

(10) International Publication Number WO 2004/085256 A1

(51) International Patent Classification⁷:

B65B 19/30

(21) International Application Number:

PCT/PL2004/000020

(22) International Filing Date: 22 March 2004 (22.03.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: P.359311

24 March 2003 (24.03.2003) F

(71) Applicant (for all designated States except US): INTER-NATIONAL TOBACCO MACHINERY POLAND LTD. [PL/PL]; ul. Warsztatowa 19A, PL-26-600 Radom (PL).

(72) Inventors; and

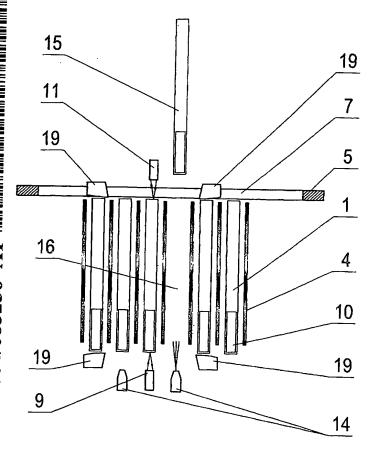
(75) Inventors/Applicants (for US only): SIKORA, Leszek

[PL/PL]; ul. Piastowska 6/9, PL-26-600 Radom (PL). STOLARSKI, Krzysztof [PL/PL]; ul. Sadkowska 10/25, PL-26-600 Radom (PL).

- (74) Agent: PRZYKORSKI, Andrzej; ul. Malawskiego 5/108, PL-02-641 Warszawa (PL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: METHOD OF DETECTING AND REJECTING FAULTY CIGARETTES



(57) Abstract: A method relates to a production line where cigarettes are arranged in horizontal layers within approximately vertical channel (3) of packing machine feeding system, the width of which is slightly bigger then the cigarette diameter. The cigarettes are moved gravitationally toward the bot tom plate (6) tram which they are transferred to the packing machine, whereas faulty cigarettes are detected with sensors (9, 11) defining their defects, and the faulty cigarettes are rejected by a rejecting device (14). According to the present invention, when the cigarette layer is stopped in the channels, which takes place between consecutive cycles of transferring cigarettes tram the bottom plate to the packing machine, the cigarettes are inspected in all channels of the feeding system with use of movable sensors (9, 11) moving with reciprocating movement along a determined trajectory (7), whereas the movable sensors are coupled with the rejecting device (14) and detection and rejection of faulty cigarettes take place along the same trajectory along which the movable sensors are movable.

WO 2004/085256 A1

| 1201 | 611/1001 | 1 21/10 | 11/11 | 61/11 | 61/11 | 61/11 | 61/11 | 61/11 | 61/11 | 61/11 | 61/11 | 61/11 |

Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.